

MARINE

REVIEW.

VOL. IV.

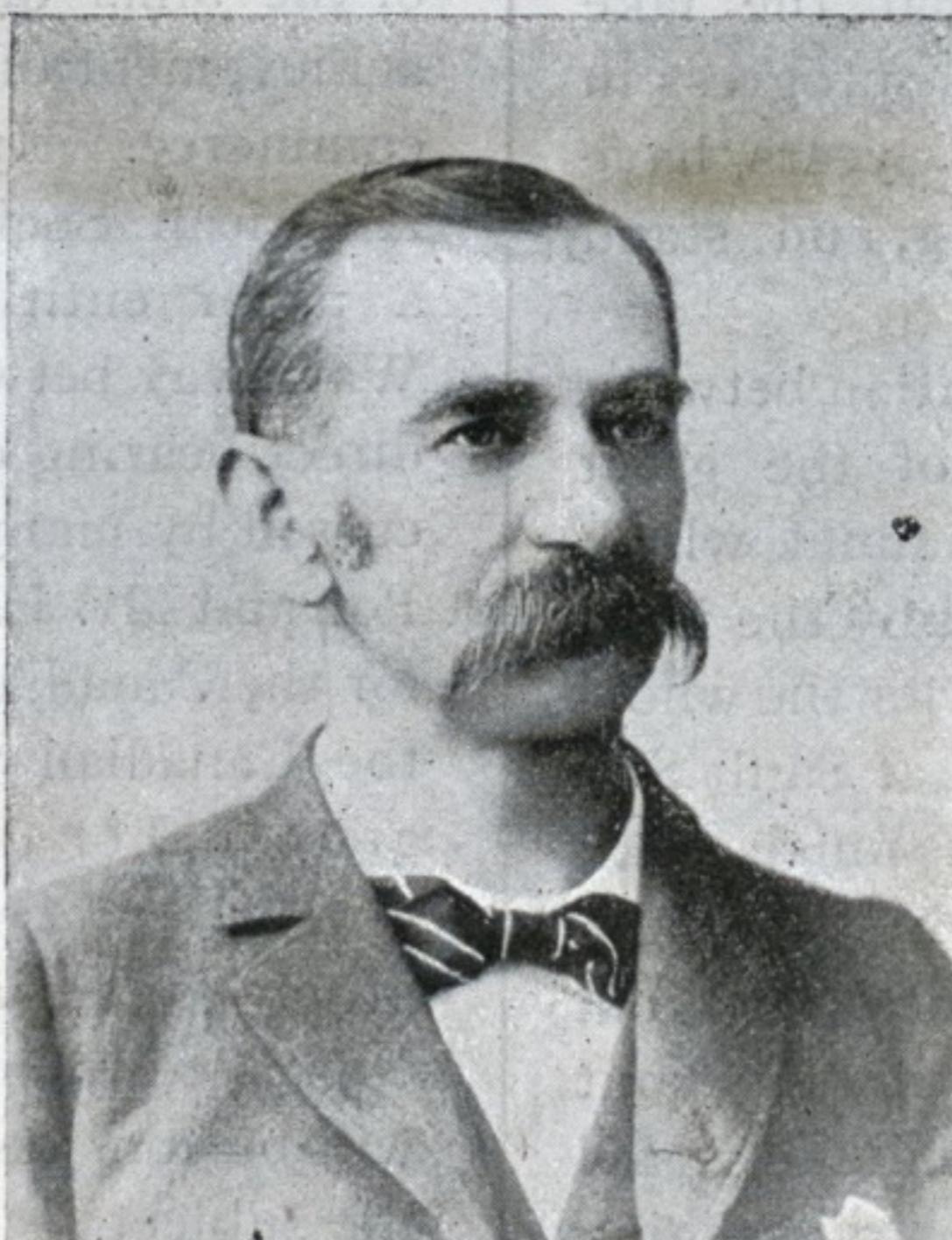
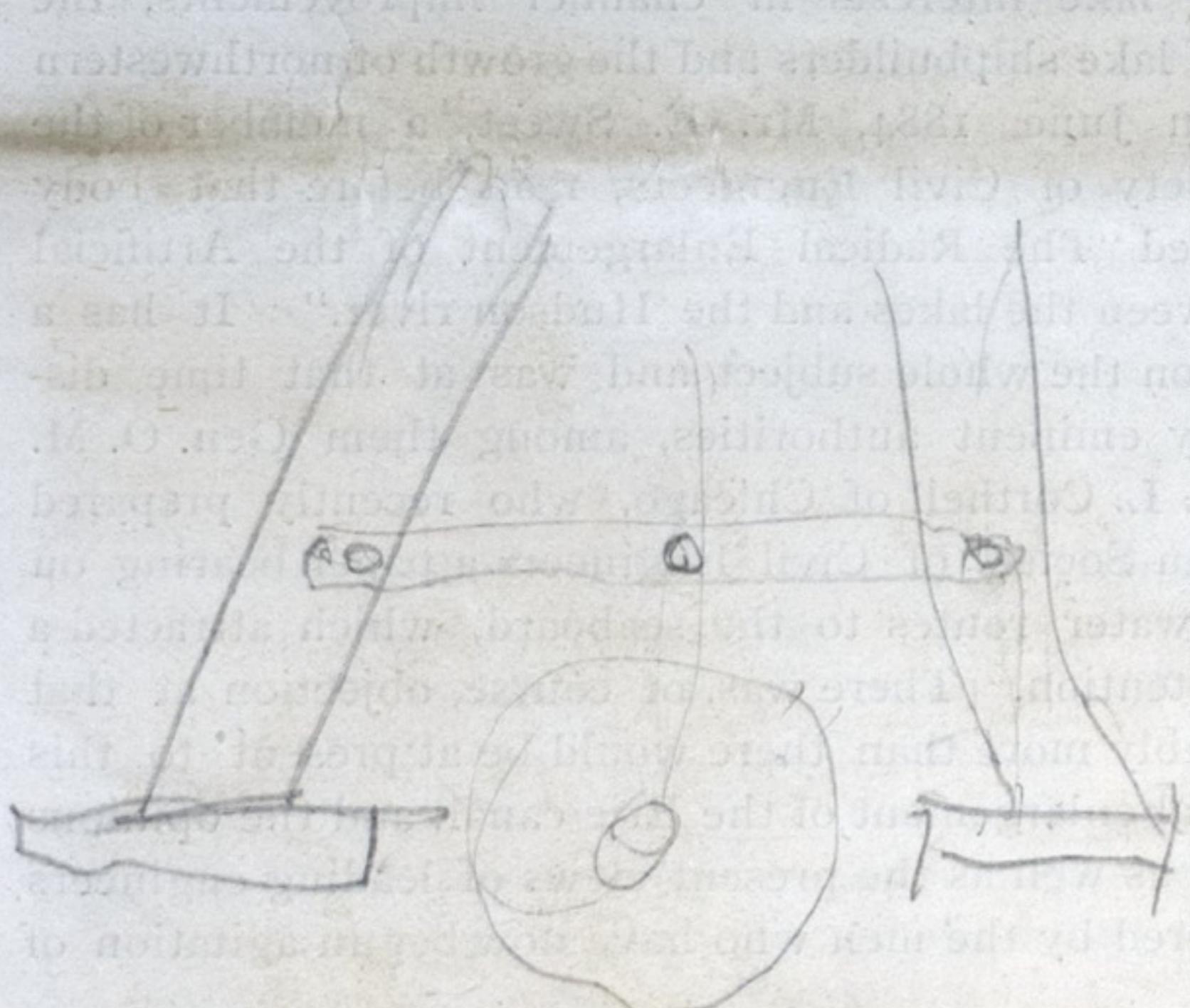
CLEVELAND, OHIO, THURSDAY, JULY 16, 1891.

No. 3.

Supervising Inspector Westcott.

A good likeness of Capt. C. H. Westcott, recently appointed to the position of supervising inspector of steam vessels for the Eighth district, is presented in the accompanying engraving. The appointment meets with favor from vessel owners and vessel masters in all parts of the lakes, as it is generally desired that the supervising board of steamboat inspectors contain at least one man from the lakes who is familiar with navigation matters. The Eighth district includes the local districts of Detroit, Chicago, Milwaukee, Port Huron and Grand Haven and covers all ports on the lakes and connecting waters above Detroit excepting a small portion of Lake Superior. The steam tonnage of the district aggregates about 350,000 tons.

Supervising Inspector Westcott was born in Leslie, Mich., in 1847 and began sailing at 14 years of age. He received his first command in 1872 when in his 25th year. With J. W. Westcott, his brother, who is well known in connection with the marine reporting business at Detroit, he has owned and operated several



CAPT. C. H. WESTCOTT.

vessels during the past twelve or fifteen years, but his interests in this line are understood to have been disposed of since the appointment, in accordance with the rules of the service.

Canada's Logs and the Lake Lumber Trade.

While Canadian owners of timber lands and manufacturers of lumber are finding fault with their government, on account of the removal of the export duty on logs in return for the free admission of lumber under the McKinley act, the American owners of Canadian timber are taking advantage of the situation and are rafting large quantities of logs and cedar ties from the Georgian bay district. Cedar ties are being rafted to Cleveland, and owners of Alpena lumber mills who succeeded in taking one raft of about 1,000,000 feet of logs across Lake Huron in seventy-two hours, talk of increasing the size of the raft to 4,000,000 feet. The Cleveland Cedar Company, brought one large raft of cedar ties from Georgian bay to Cleveland without difficulty, but a second one, started last week, broke away from a tug and is now being picked up by vessels from the Canadian shore above Port Huron. Vessel owners do not take kindly to

the rafting system, as freight on the ties when carried by vessels is fairly remunerative.

If present relations regarding lumber between Canadian and United States governments are continued, it is certain that Canada's big area of timber lands in the vicinity of Lake Huron will be drawn on largely by the American demand, as the decrease in Michigan's supply has compelled eastern dealers to resort to Minnesota and Wisconsin, necessitating a big increase in freights. Figures recently produced by the census show that Minnesota is now the centre of white pine supplies, and the increased lake trade in lumber from the head of Lake Superior is a forcible indication of the change. There are now really but three white pine states—Minnesota, Wisconsin and Michigan. In Minnesota the manufacturers have 10,000,000,000 feet of standing pine the state has 20,000,000,000 feet, and the federal government 20,000,000,000 feet, a total of 50,000,000,000 feet, more than the combined holdings of all manufacturers in the group of three states.

The Canadians are entering a vigorous protest against the removal of logs from the Georgian bay district, and the matter is the subject of general discussion, but Prime Minister Abbott says nothing will be done until after the reciprocity conference in Washington. In the Canadian senate a few days ago, Mr.

Flint in referring to the logging question said: "When you are making a bargain with an American you must watch in which direction he whittles the stick in his hand. If the bargain is turning in his favor he whittles towards himself, if in yours he whittles away from him."

The five largest asbestos manufacturers in the United States, H. W. Johns, Chalmers-Spence, The Asbestos Company, Chas. W. Trainer & Co., and Shields & Brown, have been consolidated under the name of the H. W. Johns Manufacturing Company. The name was chosen because that company has been in the business since 1858. Factories will be operated in New York, Chicago and Boston, the main office being located at 87 Maiden Lane, New York. The reduction in cost of production will accrue to the buyer, it is claimed.

A Project Involving Hundreds of Millions.

Vessel owners of the lakes, and among them men who have been most influential in securing appropriations from the general government for improvements in inland waterways that have reduced the cost of transportation in a manner amazing to the entire country, are about to lay plans for a 20-foot navigation in the Erie canal at a cost of probably \$150,000,000. This is a broad statement, involving as it does the political aspect of the canal question in New York state, the progress of improvement in Canada's St. Lawrence canals, the opening up of the greatest inland commerce in the world to the ships of all nations and the fact that the government has already committed itself to the proposed Hennepin canal between Chicago and the Mississippi by an appropriation of \$500,000 from the last congress, but it is nevertheless certain that this great question, so many times discussed on paper, is now for the first time being seriously considered, with a view to bringing it before congress, by the men who have been instigative, through the building of the St. Mary's Falls and St. Clair ship canals and the enlargement of the connecting waterways of the lakes, in showing to the country the wonderful benefits of cheap water transportation.

It would be useless to attempt to discuss in full here the attitude of the railways or the probable opposition to this big improvement from the cities of New York and Buffalo, on account of the loss to them as terminal points. Neither does the subject at this time admit of comment regarding the practicability of subjecting costly ships to great delay in slow navigation of a lengthy artificial channel, or the probable effect on inland commerce through competition with foreign built boats and foreign carriers in the inland trade. It is enough to say that the lake interests, in which the country's greatest spirit of progress in the shipping line has been shown during the past few years, have begun to look with favor on such an undertaking, and stand ready to present forcible arguments in favor of it.

There is now assured to the lakes 20-feet navigation between Chicago, Duluth and Buffalo. The completion of the great works that form the connecting points of this channel, which will have a minimum width of 300 feet, was assured by the river and harbor act of the last congress, which provides for the whole work on the Hay lake channel and the new lock at Sault Ste. Marie. These improvements are to be pushed to a finish with as much haste as can be made by the government officials in charge. Contracts for them have been let, the money for them is forthcoming and they will be ready for navigation in about four years. There is no doubt now in the minds of lake vessel owners that congress will in the meantime provide for dredging in other parts of the channel between Lakes Huron and Erie, that will give full 20 or 21 feet navigation throughout the entire chain of lakes. This last work, on which Gen. Poe has made an estimate of about \$3,000,000, is a matter of only minor importance, as it is certain to be carried out during the progress of work at Sault Ste. Marie and Hay lake. With this 20 feet navigation then, over the entire chain of lakes, of what use would the St. Lawrence canals be as a direct route to the seaboard, when Canada does not propose to do more than increase them to Welland canal size? The Welland canal has only 14 feet of water and its locks will not admit of a boat longer than 265 feet. To the practical men of the lakes, who know that the class of boat required for ocean voyages or even for the coast trade must be cut in two in order to go through the Welland, this argument is a final one, but there are other and more forcible reasons why direct connection between the American lakes and the seaboard must be made in some other way than through the St. Lawrence. Canada has been for more than ten years engaged on the present slow work of improving the St. Lawrence canals, and there is no assurance that they will be equal to the Welland for a generation to come. The proposed canal around Niagara Falls, in the interest of

which there has been some talk of holding a convention in Buffalo next fall can, of course, only be considered in connection with the objections raised to the delay in completing the Canadian canals and their uselessness in event of their ever being finished, as Lake Ontario and the St. Lawrence would of necessity be the outlet for an artificial waterway around the falls.

But the great objection to all routes leading into the Canadian canals below Lake Ontario is the fact that they propose a Canadian outlet for America's greatest inland commerce. Is this country to build up a waterway system with Montreal for its terminus? Fault must certainly be found with such a proposition whether the canal question is considered from a commercial standpoint or as a waterway of the utmost importance in time of war. New York state is restive under an annual expenditure of about \$1,000,000 a year for the maintenance of the Erie canal. Can its commercial representatives be induced, now that the best minds of the country are united in the belief that the lakes must have an outlet to the coast, to turn over the canal to the general government with the understanding that it shall be improved on the grand scale outlined here? Hudson river interests are already agitating in a very earnest manner the deepening of that waterway so as to admit of ocean-going vessels reaching Troy and Albany. This is another link in the scheme now under way. The New York chamber of commerce and other leading commercial bodies may soon expect to hear from Hon. Geo. H. Ely and other leaders in matters of this kind on the lakes who are now considering with Mr. Ely the different phases of the subject.

The project is not by any means new but it has received its present impetus through the rapid steps toward accomplishment of the aims of lake interests in channel improvements, the achievement of lake shipbuilders and the growth of northwestern commerce. In June, 1884, Mr. E. Sweet, a member of the American Society of Civil Engineers, read before that body a paper entitled "The Radical Enlargement of the Artificial Waterway between the lakes and the Hudson river." It has a direct bearing on the whole subject and was at that time discussed by many eminent authorities, among them Gen. O. M. Poe and Mr. E. L. Corthell of Chicago, who recently prepared for the Canadian Society of Civil Engineers a paper bearing on the Canadian water routes to the seaboard, which attracted a great deal of attention. There was, of course, objection at that time and probably more than there would be at present to this proposed radical enlargement of the Erie canal, and the opinions expressed then as well as the present views of leading engineers will be considered by the men who have now begun agitation of the subject.

A Sale of Some Significance.

The propeller Alcona and consort Alta, having a combined capacity of about 2,800 tons and valued in Lloyds at \$83,000 have been sold by the Bewick Transportation Company of Detroit to the Ohio and Pennsylvania Coal Company of Cleveland for \$55,000. Mr. E. J. Owen of Detroit owned a controlling interest while the control in Cleveland will be in the hands of Mr. J. B. Zerbe of the coal company. Mr. Owen, who was connected with the Detroit Dry Dock Company for some time, parts with his last interest in vessels with the sale of these boats, and the purchase at the figure named is generally considered a good investment. John Parker, Alexander McVittie and Capt. Frank Danger were associated with Mr. Owen in the ownership of the boats. Mr. Zerbe's company ships a large amount of coal from Cleveland each year and he is also in close relation with Oglebay, Norton & Co. of Cleveland, ore shippers who have a contract with the boats for carrying ore this season.

The longest shaft in the world in one piece, or in any number of pieces, is in the Washington navy yard, Washington, D. C. It is $3\frac{1}{2}$ inches square, 460 feet long and transmits to travelling cranes. It runs at 160 revolutions per minute.

Lake Freight Situation.

The ore movement is still full 2,000,000 tons short of the output at this time a year ago and there is little hope of making any gain on shipments during the latter half of this season, excepting at advanced sales, although it is admitted that consumption during the year beginning with the opening of navigation must be largely in excess of the previous twelve months. Some ore is being sold at an advance of 25 cents a ton over first sales but the companies that are in a position to make additional sales do not seem inclined to increase their obligations unless the market shows still further improvement. It is the general opinion that the furnace owners have not bought enough ore, and conditions surrounding the freight situation will not warrant the ore companies in making additional sales at anything near present prices. An immense grain crop is now assured beyond any question of doubt and Europe will want more than the surplus of 140,000,000 bushels of wheat now figured on by the best judges. No better assurance of a fair business for lake vessels is needed than the gradual advance in ore freights already recorded. Rates are up to \$1 from Ashland, 95 cents from Marquette and 70 cents from Escanaba, with indications of an advance in the Marquette rate to \$1. This week's advance in the Escanaba and Marquette rates was secured through the rise in grain freights at Chicago. Although the advance in grain, obtained through labor troubles at Chicago, is not substantial, on account of the small amount of grain in store at that point, it is not thought that ore rates will go back to former figures, even in event of a reaction in grain. A good reason for this belief is the fact that boats will not take Marquette ore short of a figure at or near the Ashland rate, and the demand for tonnage at Marquette will thus tend to uphold the Escanaba rate. Duluth had but 1,792,345 bushels of grain in store on Saturday last, as against 2,061,332 bushels the previous week so that there is little to be expected from this source until a movement of the new crop is begun. Vessels to take lumber from the head of Lake Superior to Chicago and Buffalo, especially the former port, are again in demand, however, and the rate that was down to \$1.75 ten days ago is again back to \$2.25. The rate on soft coal to the head of Lake Superior declined at the close of last week to 45 cents, on account of a shortage of coal and from the fact that shipments of hard and soft coal to Lake Superior up to July 1 showed a gain of 120,000 tons tons over the corresponding date a year ago. The strike in the mines of W. L. Scott & Co. is at an end, however, and this will have some bearing on Lake Superior shipments. Other coal rates are as they have been for several weeks past. Duluth is paying 2½ cents on grain but there not enough to go around.

Gas Buoys to be Given a Trial on the Lakes.

In the last civil sundry appropriation bill the light-house board was authorized to purchase fifteen gas buoys at \$2,000 each, and the officers of the board promised to give some of the buoys to the lakes. There has been some delay in negotiations with the manufacturers of the buoys, but Secretary Keep of the Lake Carriers Association was a few days ago informed by Commander Coffin, naval secretary of the board, that an arrangement had been made whereby the lake vessel interests may expect six of the buoys shortly. Commander Coffin is now making arrangements for their location and, although the places where the buoys are most needed have not as yet been decided upon, it is probable that one will replace the float light at Ballard's reef, Detroit river, two others be located at the Lake Huron entrance to the St Clair river, for which the range lights at Point Edward are now maintained, two others on Poe's reef and Graham shoal and the sixth probably on Gravelly shoal. These are all dangerous places where heavy losses have resulted in the past, but there are others, such as Starve island reef and Poverty passage, that are equally deserving of attention. These buoys have been described in the REVIEW. They are of tank form with an iron frame-

work projection supporting a pipe and burner that regulates the discharge of gas. The gas is made from petroleum and can be compressed so as to admit of a buoy giving light for ninety days without attention. The buoys are manufactured by the Pintsch company, a New York concern that has located gas manufacturers in different parts of the country and has established a successful system of lighting passenger trains. It will probably be necessary to take the supply of gas for the lake buoys from a Chicago plant, but the gas system is now being used extensively on railway trains and it may be expected that gas plants will soon be located in all of the leading cities.

Wrecks and Heavy Losses.

The sinking of the steamship Pontiac, referred to elsewhere, may not result in the total loss of the boat, as she will probably be raised, although the river current, her cargo and other obstacles will make the work difficult. Two other boats that have met with accidents during the past few days will, however, be numbered among the total losses. The propeller Ira Chaffee, valued at \$7,500 and owned by J. P. Sullivan of Detroit was entirely destroyed at the Sault Saturday, and the schooner Silver Cloud, which went ashore near Port Washington, Lake Michigan, on the 7th inst. with a loss of three lives, has been given up as a total loss. The steamer Martini, sunk near the mouth of the Detroit river by the steamer Specular, has been raised and will be repaired at Ironton. Her damages are estimated at \$1,200.

Pushing the Pope.

The Dry Dock Navigation Company of Detroit, owning the big steel steamship E. C. Pope, is undoubtedly pushing the boat for a record in the ore trade, and she is doing all that was expected of her. It is more than probable that the object is to sell her. Her big cargoes on the light Lake Superior draft are wonderful and she is making nearly 14 miles an hour over some portions of the Lake Superior run with economy in fuel equal to any of the big boats.

Official Numbers and Tonnage.

The bureau of navigation, William W. Bates commissioner, assigned official numbers to the following lake vessels during the week ending July 11: Steam—C. H. Lamb, Erie, 16.09 tons gross, 8.36 net, No. 126,760; Florence, Rochester, 15.23 tons gross, 12.24 net, No. 120,851; Mate E., Sandusky, 13.10 tons gross, 9.17 net, No. 92,340; Paddy Miles, Buffalo, 33.13 tons gross, 16.57 net, No. 150,536. Sail—E. L. G., Rochester, 13.39 tons gross, 12.72 net, No. 136,221. Unrigged—Cora Horn, Sandusky, 242.36 tons gross, 231.18 net, No. 34,219; John Breman, Oswego, 111.83 tons gross, 106.24 net, No. 46,436.

Saginaw Valley Shipyard News.

Special Correspondence to the MARINE REVIEW.

WEST BAY CITY, Mich., July 16.—F. W. Wheeler & Co. received contracts for the coast light-ships Monday. Draftsmen are already at work on them, but work in the yard will not be commenced under two or three weeks, or until the steamer now building for the Nicaragua Canal Company is launched. This steamer will be launched about Aug. 1 and finished about Sept. 1. Mr. Wheeler returned Saturday from New York where he went to attend the annual meeting of the Saginaw Steel Steamship Company, of which company's stock Wheeler & Co. hold quite a share. He says that the Keweenaw will probably remain on the Pacific coast and that another of the company's vessels may also go to the western shore. Work on the lightships is to be completed in ten months from the signing of the contracts.

Capt. Cole, owner of the steamer Dove, recently burned, says that he has not yet decided whether he will have the vessel repaired. The Dove is still at Wheeler & Co.'s dock. The F. & P. M. steamer No. 3 is at Wheeler & Co.'s and will receive about \$5,000 in repairs. When work on this vessel is completed F. & P. M. No. 2 will be sent here for a \$10,000 overhauling.

Freight rates show no change and the longshoremen still receive 45 cents an hour. The steamer Boyce and tow this week took 2,000,000 feet of lumber to Chicago for their owner, Jonathan Boyce of Grand Rapids.

It is reported that Capt. Armstrong will take the steamer Ossifrage to Chicago and run her on the excursion route with his two steamers now there, the Post Boy and the Newsboy. The boat will remain the property of Wheeler & Co., however, until a purchaser can be found, as Capt. Armstrong doesn't care to invest any money in the vessel. Unless she is taken to Chicago the Ossifrage will probably remain idle at this port until sold, as Mr. Wheeler says he will not devote his time to keeping her on any route.

CHICAGO LAKE INTERESTS.

WESTERN OFFICE, MARINE REVIEW,
No. 210 So. Water Street, CHICAGO, Ill., July 16.

Before the board of United States engineers, ordered by the secretary of war to report on the Canal street bridge matter, the marine interest made a good showing. The statements of their brief were corroborated in the fullest degree by the city officials present at the inquiry. Commissioner of Public Works Aldrich admitted the truth of the indictment, and the roasting he gave Mayor Cregier's administration in the construction of that bridge was a terror. He frankly admitted that the marine interest had been badly used in Chicago, and was entitled to redress. The agitation over that one bridge has done a world of good to the lake marine, in navigation on Chicago river generally. The present city administration is inclined to the idea that the marine interest should pay port or harbor dues. The railroads are forced to build viaducts and bridges in return for privileges granted them; hence, as the city officials say, the marine interest should pay for better advantages of navigation. If Chicago should impose these taxes she is running counter to the entire spirit of government now prevailing through the United States. The tendency is to remove all burdens, and to expend many millions annually for the improvement of waterways. Even the payment of subsidies by the federal government has become the creed of the dominant political party. New York has made the Erie canal free, and expends large sums of money on that most important waterway. But in Chicago, the idea that the marine interest should be taxed on its traffic has many advocates. It is strange that this city, which owes its existence to its position on the great lakes and whose commerce by water today is as large as by her multifarious railroads, should be the only port on the lakes where harbor dues, as a tax, should be advocated. From a broad standpoint, that reasoning is not well founded. Every cent expended on waterways should be returned to the people in the cheapening of freights. The return by reason of the deepening of the course from Lake Huron to Lake Erie has been simply incalculable. Because the passing between Lake Superior to Lake Huron was improved coal can now be burned in the northwest and its wheat shipped to market at a figure that allows the northwestern farmer to live. But this is all too well known to be repeated here. While the general government is expending vast sums to improve the waterways, build light-houses, and thus lessen the cost of transportation, many people in Chicago believe this city should take the opposite course. It is odd they cannot see the difference between railroads and the marine. The first in their essence are a monopoly. Waterways are the destruction of monopolies. Water transportation must in its nature be free to all. The law of supply and demand fixes rates of freight. Then rates are not independent in lines of traffic. Grain rates are governed by ore rates, and ore rates depend largely on what is being paid for grain. Lumber is wholly dependent on what is doing in grain and ore. Lake Michigan and Lake Superior ports compete for coal as back cargoes. Now a tax in the shape of harbor dues will result only in an advance of freights to and from Chicago. The tax will be added to the usual rates, just as tug bills and the tiresome delays in Chicago river, are now added, and the coal coming to Chicago will pay that much more than if it went to Milwaukee and South Chicago. The Milwaukee rate is now ten cents less than Chicago's, even when boats come here for grain cargoes back. That ten cents has built up Milwaukee's coal trade at the expense of this city. With grain, always in competition with ore, harbor dues would probably add an eighth of a cent to the rate, boats would accept for grain rather than take ore. An eighth is not much, but is sufficient to turn millions of bushels of grain from the Erie canal to the St. Lawrence river or vice versa. It means that the Chicago shipper must sell his grain just that much cheaper, for he makes his price to the eastern buyer by adding freight to cost, and he must wait until the cost in Chicago is in line with eastern markets before he can close the deal. There is a great difference, also between the position of the railroads and the marine, when it comes to paying for improvements. What a railroad receives is its own and to hold forever. These franchises will become immensely valuable with the growth of the city. With the marine the newest comer from the shipyard is on an equal footing with the oldest timer.

The jump in grain freights Monday and Tuesday was one of the surprising things of the summer. Although some advance would have obtained, yet nothing like $\frac{3}{4}$ cents could have been secured without the aid of the strike in tying up so many boats. Without the strike the lines would have carried away some 400,000 or 500,000 bushels more grain than they did just prior to the advance. It was that amount of grain seeking vessel room Monday and Tuesday that caused the shippers to fall over each other in the rush for boats. There does not seem to be the conditions existing which might cause vessel owners to hope for another advance or even the maintenance of the rates now prevailing. There is not the grain in store here to stand the crush of vessels for a week. Stocks are too low. The strike is over, and the line steamers will be driven to make up for lost time. If by hook or crook rates are upheld until the new crop of wheat begins to move, it would seem most fortunate.

The Virginia, of which so much has been said, arrived here Tuesday morning and was thrown open to private inspection during the day and evening. She comes up to all anticipations in her general elegance and build. The fifteen thousand people who saw her Tuesday were simply charmed. She is certainly the goal of lake shipbuilding.

The growing number of damage cases on the Chicago river is one of the serious problems in the tug business here. With the large steamers creeping through narrow passage-ways, with egg shells in the shape of old schooners and on each side canal boats, it is much like driving an elephant through a henhouse. Vessel owners load these bills for damages on the tugs when frequently the tugs are not at all at fault. More frequently no one can be said to be at fault, and the mishap is one of the inevitable results of conditions prevailing on the river. If the tugmen of Chicago had any independence and any capacity for operating together, this imposition of vessel owners would cease, and the damage bills be properly divided. A tug in Chicago river is not a common carrier nor an insurance company. When she is at fault she ought to pay, but when the steamer is equally at fault, bulldozing tactics that compel the tug to pay in order not to lose business are unfair and of the order that might makes right.

The hotly contested longshoremen's strike came to an end last Monday. The loss to the four lake lines must have been heavy, but they had some recompense in the advance in freights, which was the direct outcome of the strike. The trouble has shown that there is something wrong in the way package freight is handled in Chicago. This hour-pay system is radically wrong with the kind of men employed on the docks. They work too many hours, and become too played out. The line agents acknowledge something ought to be done, but they do not yet see the way to meet the end. The strike in any event ended in the complete victory of the line agents, and the strikers returned to work without terms.

Canadian Dock Jobs

Special Correspondence to the MARINE REVIEW.

KINGSTON, Ont., July 16.—The sensation among marine men is the suspension by the government of Mr. Perley, chief engineer of the public works department, for having accepted \$2,000 worth of jewelry from Connelly Bros., the dry dock contractors, while they were building the dry dock at Quebec. It is claimed he took the jewelry as a bribe for having advised the government to make certain changes in the dock, which brought the contractors large sums for extras. Strange to say a similar recommendation was made to the government recently by Mr. Perley's son, who is government engineer of the construction of the Kingston dry dock. It being suspected that the change, which has been made and just finished at a cost of \$33,000, was not necessary, the probabilities are that an investigation will be held as soon as possible.

The article which appeared in the REVIEW of last week regarding the government's neglect of Kingston harbor, has had some of the desired effect. Only yesterday Capt. Gaskin received authority from the minister of the marine to take tenders for the construction of a number of large buoys, which will replace the present useless floats that can be seen by neither day or night. After the new buoys are placed, the next thing in order will be the range lights. The sooner they come the better.

It looks as if parliament will adjourn without taking any action with regard to the rebate of tolls on grain stored at Ogdensburg and bound for Montreal. This question agitated the forwarders very much at the beginning of the year, but of late not a whisper has been heard about it. It is being either ignored purposely, or those who have it in charge do not care to embarrass their party.

There is only one boat on the stocks here, and that is a barge being built by the Montreal Transportation Company. Other years, crafts were being built at different places in the neighborhood and they gave employment to many men.

Now that the marine people have completely demonstrated and applied small high speed triple expansion engines to various kinds of water craft, the electrical companies are beginning to consider the problem. The Edison company, it is said, are preparing to construct such engines combined with dynamos of 75 horse power and upwards. The Hereschoff company, in Rhode Island, fit up their launches with such engines to run at 500 revolutions per minute. Just why directly-gearred dynamos continue to be driven with single, or at most, compound engines is not clear. —Journal Industries, San Francisco.

It is announced that the Chignecto ship railway, the first of its kind in the world, will be opened for traffic next year. Thirteen miles of track are now laid of the seventeen required.

The art of building big vessels is not altogether new so it would seem. Ptolemaeus Philopater, one of the kings of Egypt, is said to have built a vessel 420 feet long, 56 feet broad, 72 feet high from the keel to the top of the poop. It had four helms of 60 feet; its largest oars were 56 feet long with leaden handles, so as to be most easily worked; it had two prows, two sterns and seven rostra or beaks.

Record of Speed and Big Cargoes.

[Masters or owners are invited to report improvement on this list.]

Iron ore: Lake Michigan—Maryland, Inter-Ocean Transportation Company, of Milwaukee, 3,322 gross, or 3,737 net tons from Escanaba. Lake Superior—E. C. Pope, Dry Dock Navigation Company, of Detroit, 2,718 gross, or 3,074 net tons from Ashland, light draft.

Grain: W. H. Gilcher, J. C. Gilchrist, of Cleveland, 114,982 bushels of corn, Chicago to Buffalo; America, M. M. Drake, of Buffalo, 111,507 bushels of corn, Chicago to Buffalo.

Speed: Owego, Union Line, of Buffalo, Buffalo to Chicago, 889 miles, 54 hours and 16 minutes, 16.4 miles an hour; Saranac, Lehigh Valley Line, of Buffalo, Buffalo to Lime-Kilns, 240 miles, 15 hours and 10 minutes, 16 miles an hour.

Iron Mining.

VALUE OF LEADING STOCKS.

Quoted by Chas. H. Potter & Co., No. 104 Superior St.

Stocks.	Par Value.	Bid.	Asked.
Cleveland-Cliffs Iron Company.....	\$100 00	\$.....	\$ 80 00
Champion Iron Company.....	25 00	87 50
Chandler Iron Company.....	25 00	37 00	39 00
Chicago and Minnesota Ore Company.....	100 00	100 00
Jackson Iron Company.....	25 00	90 00	100 00
Lake Superior Iron Company.....	25 00	52 50	55 00
Minnesota Iron Company.....	100 00	69 00	71 00
Pittsburg Lake Angeline Iron Co.....	25 00	140 00
Republic Iron Company.....	25 00	29 50	30 50
Ashland	52 50

On July 16, 1891, just a year ago, the Lake Superior mines had shipped 3,440,432 gross tons of ore and it is absolutely certain that these figures represent a movement full 2,000,000 tons greater than the output so far this season. The shipments from Ashland and Two Harbors to the 9th inst. aggregate only 560,897 tons, and it is known that the decrease from Marquette and Escanaba, as compared with last season, is correspondingly greater than that from the head of Lake Superior. Even from Two Harbors, where shipments have been more active than at any other port, the movement still shows a decrease of more than 70,000 tons as compared with last season. The output of the mines this season is given only in the case of those shipping from Ashland and Two Harbors and is as follows to July 9:

Ashland shipments.	Gross tons.
Carey.....	19,405
Treazona.....	10,754
Germania.....	1,768
Mt. Hope.....	83,623
Norrie.....	83,867
East Norrie.....	32,664
Eureka	4,537
Pabst.....	39,973
Ruby.....	384
Sunday Lake.....	10,556
Ashland.....	52,610
Aurora.....	20,149
Tilden	9,000
Iron Belt	1,506
Montreal, south vein.....	8,615
Palms.....	4,319
Section 33, Bessemer.....	8,235
Total.....	326,975
Two Harbors shipments.	Gross tons.
Minnesota.....	126,670
Chandler.....	107,252
Total	233,922

The Ludington mine had shipped 46,815 gross tons from Gladstone July 9.

Mining stocks are still dull and there is little of interest to report with regard to them. Prices of shares are higher in some cases, but buyers and sellers are apart in their views. Dividends are expected from several of the companies having surplus money but no new ones are announced. Ashland, a stock just added to the list has paid \$5.00 on this year's sales and gives promise of \$5.00 more. It is expected that Lake Angeline, which paid \$1.50 a share last month, will make another dividend the present month. Champion and other companies have money but they are slow in dividing it.

The Diamond Drill says that at present about 300 tons of ore per day is being taken from the Mastodon mine of the Crystal Falls district. Another 5,000 ton lot of ore has been sold, which makes the sales for this year 35,000; all of this will be taken direct from the mine, and the stock pile of 15,000 tons will be held until more ore is disposed of. The bulk of mining is on the 300-foot level and above, there being a lot of ore in sight. Capt. Henry Roberts is in charge of the mine for the lessee, Capt. C. T. Roberts, while E. S. Roberts looks after sales interests of the company.

The Dunn mine, one of the Schlesingers, is shipping 1,000 tons of ore a day and could increase the output to 1,400 tons if the supply of cars was more liberal. Shipments so far this season amount to about 60,000 tons. In a long drift to the north a good deposit of ore was found last week. A new shaft will probably be sunk in the foot wall, from which a cross-cut will be run to the new find. Two other drifts are under way and give promise of profitable returns.

The East Jackson mine, a property on which considerable work has been done of late, gives promise of producing a fair quantity of ore this season. Ore was struck about ten days ago and, although quite mixed on the edge, the drift is now in 15 feet of soft ore that will yield high in iron. Its thickness is not known but the drift seems to be coursing diagonally. It is the same ore revealed by the diamond drill some time ago, and the drift will be continued through it to the hard ore known to lie from 50 to 75 feet farther south.

The Pioneer mine of the Vermillion range shipped 12,000 tons of ore last season and it was thought this property, as well as the Zenith, another new mine of this district, would produce considerable ore this season. The market has been against them, however, and nothing has been heard of them in the shipping list but development work has been carried on and, now that there is improvement in the situation, the Pioneer is about to begin shipments and the Zenith may also present a surprise in the way of a creditable output for 1891.

The Buffalo group of mines, Schlesinger syndicate, have shipped 150,000 tons of ore so far this season and are probably being operated more fully than any of the other Marquette range mines. Development work is keeping pace with production, six drills being employed exclusively in that line. Supt. Cole says that the openings are now three years ahead of actual mining operations.

It is said that the Lee Peck mine, Menominee range, is soon to be worked on a large scale by Messrs. King and Wilson, and a plant of machinery has been set up preparatory to the operations. The property is known to contain a large vein of ore. Capt. E. Florada, late of the Dunn mine, is superintendent.

Working forces are being increased in a number of the Gogebic mines. At Section Thirty-three about fifty additional men were given employment last week and shipments are being made from the company's stock pile. The stock piles of the Ashland company are also being moved quite rapidly.

The Monitor mine, a Crystal Falls property which shipped but about 26,000 tons last season is expected to produce 75,000 tons this year. About 15,000 tons has been forwarded so far and shipments are being made at the rate of 500 tons a day.

Supt. J. N. Porter of Stambaugh has resigned the general management of the Florence-Iron River Company's properties. He takes the superintendence of the Briar Hill Iron and Coal Company's gold and silver mines in Colorado.

The property on which the Commonwealth Iron Company recently found ore in paying quantities will be known as the Badger mine in honor of the state.

The Hughes Steam Pump Company, Cleveland, lately put in an immense pump in an iron mine at Iron Mountain, Mich., of 2,000,000 gallons capacity, style compound condensing 24 inch high pressure, 40 inch low pressure, 12 inch outside pack plunger; 18 inch stroke, using air pump and condenser; weight 24 tons. This pump is raising water 500 feet through a 12 inch pipe and giving unquestioned satisfaction.

MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

JOHN M. MULROONEY, } PROPRIETORS.
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210 South Water Street.

Published every Thursday at No. 510 Perry-Payne Building, Cleveland, O.

SUBSCRIPTION—\$2.00 per year in advance. Advertising rates on application.

The books of the United States treasury department contain the names of 3,510 vessels, measuring 1,063,063.90 tons in the lake trade. In classification of this fleet the lakes have more steamboats of 1,000 to 2,500 tons than the combined ownership of this class of vessels in all other sections of the country. The classification is as follows:

Class.	Number.	Tonnage.
Steam vessels	1,527	652,922.25
Sailing vessels.....	1,272	328,655.96
Canal boats.....	657	67,574.90
Barges.....	54	13,910.09
Total.....	3,510	1,063,063.90

According to the report of William W. Bates, United States commissioner of navigation, 46 per cent. of the new tonnage of the country was built on the lakes during 1889. This is a percentage greater than the work of the Atlantic coast and western rivers combined, and almost equal to the whole work on the Atlantic and Pacific coast. In 1890 the tonnage built on the lakes is but very little less than that built on the Atlantic and Gulf coasts. Tonnage built on the lakes during the past five years was as follows:

	No. of boats.	Net Tonnage.
1886.....	85	20,400.54
1887.....	152	56,488.32
1888.....	222	101,102.87
1889.....	225	107,080.30
1890.....	218	108,515.00
Total.....	902	393,597.03

St. Mary's Falls and Suez canal traffic: Number of boats through St. Mary's Falls canal in 1890, 234 days of navigation, 10,557; tonnage, net registered, 8,454,435. Number of boats through Suez canal during 1890, full year, 3,389; tonnage, net registered, 6,890,014.

Annual tonnage entries and clearances of the great seaports of the world, for 1889: New York, 11,051,236 tons; all seaports in the United States, 26,983,315 tons; Liverpool, 14,175,200 tons; London, 19,245,417 tons.

Entered at Cleveland Post Office as Second-class Mail Matter.

J. GRANT FAIRFAX, an English promoter who spent a good deal of time and money in leading lake cities during the past winter investigating matters pertaining to the formation of a company to run a line of boats, Welland canal size, from Chicago to England, has again been interviewed by a Chicago newspaper reporter and says he is still engaged on the scheme. He proposes not to begin construction of the boats until such time as the locks of the St. Lawrence canals are all increased to the dimensions of those in the Welland, but he may grow gray awaiting even so much progress in the St. Lawrence improvements. Cleveland and Detroit vessel owners who came in contact with Mr. Fairfax say that he claims connection with English nobility and bases his hope of success in the canal scheme upon this connection and from the fact that he proposes to make the enterprise distinctly English, securing all capital on the other side and building and managing the boats there. He claims to have designs from English builders for a boat of Welland canal size, capable of withstanding the ocean voyage and fitted for economical handling of dressed beef and other perishable freight. Those who have seen his plan of boat and heard his line of argument say that he has fortified himself with an endless amount of detail and is above his class of speculators, but he will probably find more subscriptions in England than in America for his Transatlantic Line stock, until such time as a better outlet than a canal of Welland size is afforded to the seaboard.

THE several members of congress who arrived in Cleveland a week ago and proceeded on a trip up the lakes have not finished their investigation as yet and will probably not return

to their homes until the early part of the week. They are now on Lake Superior, the guests of Congressman Stephenson of the upper Michigan peninsula. They visited all of the important shipping ports from Cleveland to Sault Ste. Marie during the past week and from all accounts have been favorably impressed with the extent of lake commerce. It is fortunate that Mr. Blanchard, who will undoubtedly be chairman of the river and harbor committee of the House, and Mr. Henderson, chairman of the same committee in the last congress, are with the delegation, although the reception of these distinguished gentlemen and their associates, as well as the members of the Senate committee on commerce, has not been carried out on as grand a scale as was desired. During the last session of the Fifty-first congress Senator McMillan invited the members of the commerce committee of the Senate to join in the present trip and Congressman Stephenson extended a similar invitation to the members of the river and harbor committee of the House. Little if anything was said about the vessel owners of the different lake cities joining in entertaining the gentlemen until the eve of their coming.

THE Marine Journal of New York says that vessels can be built cheaper on the lakes than on the seaboard for the reason that mechanics engaged in shipbuilding on the lakes work ten hours a day and as a rule \$1 a day cheaper than those of the seaboard. There is some difference in wages but it is not near as great as that presented by the Journal. Cheaper material—lake shipyards being nearer the supply of iron—and improved equipment are the principal aids to cheap vessels on the lakes. There are on the lakes eight plants engaged in the construction of big metal vessels and any of these concerns are equipped in a way that enables them to compete for the trade in merchant vessels with the best yards on the seaboard. They have been building practically, all of the new metal tonnage that has been added to the merchant marine of the country during the past five years and it is no wonder that they are in advance of the coast builders.

IN the Canadian senate a few days ago Senator Flint inquired whether it was the intention of the government to again impose an export duty on saw logs and timber taken from Canada to the United States to be manufactured into lumber. Senator Flint said that he had no expectation that a reciprocity treaty would ever be arranged with the Washington government. Hon. Mr. Abbott, prime minister, said in answer to Mr. Flint's inquiry that in view of the coming negotiations for reciprocity with the United States, he would say nothing further than that the government intends making no immediate change. Canada seems to be going into reciprocity matters with a general feeling of mistrust toward the Americans.

Sinking of the Pontiac.

The Cleveland Iron Mining Company's steamer Pontiac, one of the biggest steel carriers on the lakes, is at the bottom of the Sault river in 30 feet of water at Wilson's bend, with a cargo of 2,200 tons of ore. She was sunk in collision with the Canadian Pacific Railway Company's passenger steamer Athabasca Tuesday at 9 o'clock in the morning with the weather clear. The meeting of the two vessels was most disastrous. The Athabasca struck the Pontiac on the port bow with tremendous force, cutting her through nearly to amidships, causing the Pontiac to fill and sink in less than two minutes. Everything forward on the Pontiac, including cabins, bridge and pilot house, was smashed. A large portion of the Pontiac's upper works was lodged on the Athabasca's forward deck, and was in that position when she reached the Sault. The Athabasca suffered but little damage. The Pontiac was built by the Cleveland Ship Building Company in 1889 and was certainly worth \$200,000 to her owners. She was sailed by Capt. James Lowe. Both boats are insured through the English Lloyds, their policies covering collision liability.

Mr. Goulder on Protests.

In an address of a general nature on marine law delivered January 29 last, to members of the Cleveland branch of the Excelsior Marine Benevolent Association, Mr. Harvey D. Goulder, proctor in admiralty of Cleveland, had something to say about protests. There has been a great deal of comment ever since in lake newspapers regarding that part of the address treating of protests and some of it is very wide of what Mr. Goulder really did say. The talk was informal, Mr. Goulder having made no notes, but a representative of the REVIEW took notes of it, printing a synopsis of the address at the time, and this is what was said about protests:

"A protest is the most important feature in the litigation that follows it. There is not more than one notary in five or six thousand who knows how to make out a protest. There are few such in the leading lake cities—Cleveland, Buffalo, Detroit and Chicago—but there is nobody at the Sault who knows how to make a protest and yet captains rush to that point immediately after an accident. The protest is as important as the testimony of the master on the stand, and if you think you must protest on account of surrounding circumstances consider it most carefully and make it short. When it comes to a question of how fast you were running be exceedingly careful—not like a master and engineer whom I know of, and who said they were running seven miles an hour when the testimony of outsiders afterward showed conclusively that they could not have been running more than five miles an hour. In the excitement attending the work of making the protest they had forgotten that their boat had been checked down a short time previous to the accident. In all such cases the other side will hold that the protest was made when the details of the accident were fresh in mind, and this argument goes a great way with the court. It has discouraged me many times, though, when I know how hastily such papers are prepared. In many cases a protest six months afterward would answer all purposes."

Mr. Goulder concluded by advising, as has been his custom with clients for several years past, that protests be avoided, especially in collision cases, until such time as they can be made with the greatest care and by those who are capable of making them in the right way.

Cleveland Matters.

Capt. John Donnelly, Jr., and a party of friends from Cape Vincent on a cruise around the lakes in the yacht Ariadne visited Cleveland early in the week. The boat is 58 feet long, has four staterooms and is a trim craft in every particular.

The steamer City of Owen Sound, which Leslie of Kingston proposes to raise from 110 feet of water near Clapperton island Georgian Bay, has been sunk for nearly three years. She was loaded at Huron by the Drake Coal Company in the fall of 1888 with about 700 tons of coal for Owen Sound and went down when nearing her destination. The crew was saved but nothing was heard of the boat in Cleveland for several days after she was lost. The Canadian wreckers are now engaged in an effort to raise her.

Two sunken wrecks on Lake Erie should receive attention as obstructions to navigation. The schooner Fayette Brown, sunk a short time ago near the dummy in collision with one of the Northern Steamship Company's steel boats is in the channel of boats passing to and from Buffalo, and outside of Cleveland a short distance northwest of the piers the spars of the schooner Two Fannies, which foundered in a gale last season, are but a few feet below the surface of the water. Mr. M. A. Bradley, owner of the Fayette Brown, says she is not worth raising and no one claims the hull of the sunken Two Fannies, which is certainly a total loss.

The erection of scaffolding for the Brown hoists to be placed on the big Lake Shore docks at Ashtabula Harbor has begun. It has not been announced as yet whether the docks will be leased or managed by the Lake Shore company. The equipment is the same as that of the other Lake Shore docks. This big plant will

have capacity for a million tons of ore when completed and it is more than probable that a portion of the Lake Superior product will be received over the docks this season, although it was at first thought that the equipment would be delayed on account of the early dullness in the ore trade. J. W. Ellsworth & Co. of Cleveland have added an Ashtabula dock to their already extensive equipment at Lake Erie ports. They recently leased for coal purposes the Lake Shore dock at the harbor known as No. 10.

Although the big rock which Capt. George P. McKay had removed from the river at Ashtabula was not the cause of as much damage to the Mutual and Menominee boats as had been reported, its removal will allay fears of loss to the big carriers trading at that port. Damage to the Corona, which struck the rock last season, was very heavy, but the German's repairs cost only about \$500. The Norman, which was reported to have also struck the rock, did not find it and was not injured. On the Grecian, another of the steel boats of this fleet which recently ran into an obstruction in the Detroit river, the cost of repairs will, however, be very heavy. She was injured by striking in the vicinity of Amherstburg and the location will be investigated, as it is thought the obstruction is a wreck of some kind. The Grecian is now running with temporary repairs and will probably continue in this way for the remainder of the season, but her bill of repairs next fall will figure very high. The story of the Norman striking the sunken rock originated through her grounding on a "hog-back" that the dredges operated by the railway companies have left in the center of the channel. The A. & P. Co., owning the docks on one side of the river had dredged to 18 feet and the same was done on the Lake Shore side, but the center of the channel was left to the city to dredge. There is but 14½ feet over this central strip, but the railway companies have been induced to allow their dredges to go to work on it and it will probably be removed in a few days.

Rapid Fueling Arrangement.

Managers and owners of line boats and passenger boats on regular routes will be interested in the following: During previous seasons from 50 to 75 tons of coal was hauled each day to the Detroit and Cleveland Steam Navigation Company's dock, Cleveland, to fuel their steamers while they were taking on cargoes. This saved time and also saved the boat from taking an extra dock, but this season the time used in fueling has been reduced to an average of 20 minutes for taking on from 50 to 60 tons of coal. The plan was arranged by Mr. Anderson of Anderson & Cope and is used on the fuel dock of Boylan & Stafford. It consists of nothing more nor less than 50 cars holding a ton and a half each and having a side opening. They are placed on a raised track, loaded and run to the forward gangway of the steamer where a differential plate receives the car and puts it on the track in the boat whether the boat lies within two feet either way from the dock track. The track in the boat is continuous to the amidship gangway and when not in use is hauled up to the upper deck. The cars are run in, dumped over the bunkers into a continuous coal hole and without stopping are run out onto the dock and turned around by means of a turn table. The cost of the track for each boat is about \$100, while the cars cost about \$300 each. The cars are all loaded before the steamer reaches the dock and the time mentioned can be reduced almost one-half when occasion demands.

In General.

H. F. Sprague, the marine artist, recently produced a very realistic painting of the steel steamship Virginia at night. The electric light effect is natural and the water is unusually good.

The Buffalo Courier says that Capt. W. D. Robinson now presents letters patent for an "improved apparatus for raising sunken vessels," granted Nov. 9, 1869—nearly 22 years ago. Capt. Robinson is the inventor of the plan, but he never made practical use thereof. The patent expired in 1883. The "new device" just brought forward by Charles Brown of Port Huron, described in another part of this issue, is identical with that patented by Capt. Robinson in 1869. Diagrams accompanying the patent gives a good idea how the apparatus is to be operated. Capt. Robinson figured far ahead of the time, for his device is calculated as well to raise the big boats of to-day as the little ones of 22 years since. The patent having expired, anybody has a right to construct and use the apparatus.

Around the Lakes.

A few cargoes of wheat have been shipped recently from Detroit to Oswego at 3½ cents freight.

Charles Pikey, sailor of Mt. Clemens, was lost from the schooner J. D. Lozen on Lake Erie Monday.

The America, on her last trip up, made the run from Detour light-house point to the Sault in 4 hours and 30 minutes.

Spooner R. Howell of Chicago has sold the propeller A. D. Hayward to William J. Calhoun of the same port for \$25,000.

Capt. Timothy Rooney died in Toledo on Thursday last. He was sixty-one years of age and had sailed the lakes for about forty years.

Coal shipments by lake from Buffalo to July 11 aggregate 957,889 tons, against 701,350 tons at the same time last year, 726,990 in 1889 and 993,750 in 1888.

The whaleback steamer A. D. Bartlett No. 113, latest launch from the American Steel Barge Company's Superior yard, is 315 feet long. She will be used for lake service.

Buffalo & Niagara River Navigation Company is the name of the corporation which has begun an excursion business at Buffalo with the steamer Shrewsbury. The capital is \$80,000.

The Cleveland passenger steamer Lora on her first trip in Thousand island passenger trade ran on a shoal near Rock island light, St. Lawrence river. Her passengers had to be taken off in skiffs.

The Lehigh Valley steamship E. P. Wilbur last week made the round trip from Buffalo to Chicago, dock to dock, with cargo both ways, in 6 days, 13 hours and 40 minutes. No special effort was made for fast work.

The work of placing buoys at the entrance to Superior harbor and along the channel of Superior bay, as means to designate and afford safe marks for vesselmen, has been completed. Vessels bound for Superior harbor may now arrive via the natural entry.

Fully half the boats that enter this port have not complied with the law requiring the name to be painted on the quarter as well as the stern. Some of them will get hauled up with a fine some of these days.—Exchange. The law can be complied with any time within the year 1891.

Two small steamers were launched at South Haven recently. They were the Lorain L., 100 feet long, built by Martel for H. W. Williams, and the J. D. Marshall, 170 feet long, built for J. C. Perene for the lumber trade. The Lorain L. will ply between Chicago and Glenn in the passenger and fruit trade.

Capt. John Miner has sold his little steamer Skater to Richard A. and John Seymour, northern Michigan excursion agents for \$9,500. The Skater is a new boat costing \$12,000 and her former owner sacrifices \$2,500 on the sale. The boat will be run in the excursion business in and around Charlevoix, Petoskey and other points.

Capt. James F. Trowell has prepared a statement of the receipts of coal at Milwaukee for the month of June, also the receipts for the season up to July 1. According to this the June receipts comprised 142,648 tons of anthracite and 63,941 tons of bituminous—a grand total of 206,589 tons. The receipts for the season up to July 1 are 239,218 tons of anthracite and 112,136 tons of bituminous; total, 351,353 tons.

The Canadian department of marine and fisheries has received from the president of the United States a magnificent gold watch, accompanied by a heavy chain, for presentation to Martin Mahoney, captain of the schooner M. L. Breck of Kingston in recognition of humanity in effecting the rescue of a woman and ten men, comprising the shipwrecked crew of the steamer Charles E. Ryan of Buffalo, June 9, 1890.

When the steamer City of Fremont was fitted out at Buffalo, Capt. John Griffin omitted to post in its accustomed place a card of instructions to the crew in case of fire, etc. The omission fell under the observation of a lieutenant on the revenue cutter Andrew Johnson, who reported the same, whereupon Collector Watrous imposed a fine of \$500 for the dereliction. The matter has been appealed to the treasury department.

There is little hope of any improvement in the miserable ferry service in the vicinity of Detroit, although the citizens have been agitating the formation of a new company for Windsor and

Belle Isle service. John Pridgeon's talk of building new boats is simply for the purpose of warding off competition in a business of which he has a monopoly. He has not asked the Detroit Dry Dock Company or any other shipbuilding concern for figures on new boats and probably does not intend to.

An electric-naphtha launch, the invention of Clark Sintz, of Springfield, O., was examined by Captains E. M. Peck, James Millen, John Quinn, Messrs. Frank E. Kirby, Alexander McVittie, A. A. Parker, Fred. Ballin and other Detroit vessel owners in that city on Saturday last. The engine is driven through the expansion of naphtha by a spark of electricity in the cylinder. There is no noise, no steam and it is said the machinery can be operated all day on four gallons of naphtha.

The managers of the propeller Greyhound sought to save a short run at the head of Harsen's island, St. Clair river, by placing a barrel buoy closer to the head of the island than the government buoy marking safe navigation for deep laden vessels. The light-house officers removed the barrel buoy and they were right in so doing. If every shallow craft navigating the Detroit and St. Clair rivers took to placing buoys for its own private convenience, the light-house officials might as well give up their efficient service for the general good.

Charles H. Brown of Port Huron, has invented a device for raising vessels. The invention consists in a peculiar position of pontoons comprising what marine men know as camel. There are two pontoons, the holds forming the water chambers and the tops being the main deck. When they are to be operated they are towed over the sunken vessel and the valves opened. The holds gradually fill with water, and the pontoons sink. The chains from the pontoons are then adjusted around the sunken vessel; when the chains have been properly secured the pontoons are pumped out and the boat rises. If in deep water the boat is then towed toward the beach, where the pontoon is again sunk; they are separated a sufficient distance to allow a vessel to come between them, being joined together by girders. The most peculiar part of the invention is the placing of an engine in a pump-house on the deck of the pontoon, which is protected from the water when they are sunk.

Why Men of Money Build Yachts.

Wealthy men of this country who expend \$100,000 to \$200,000 for a steam yacht and then pay \$20,000 and upwards every year for the maintenance of such a piece of floating property undoubtedly do so with a view to prolonging their lives. Mr. J. H. Wade, Jr., whose yacht Wadena will leave the yard of the Cleveland Shipbuilding Company about the latter part of next month for the Mediterranean sea, has probably given more attention to detail in connection with the construction of the boat than any of the men of wealth who have had pleasure craft built on the lakes. It is admitted by the builders and chief engineer that Mr. Wade will know as much as any of them about the boat after her first voyage. He listens to suggestions in all matters regarding construction, goes home and studies up authorities and then decides.

The Wadena, as well as the yacht building at the Globe Iron Works Company's yard for Mr. H. M. Hanna, will represent in foreign ports the skill of lake shipbuilders. Both boats will spend the summers away from the lakes. Mr. H. M. Hanna's practical knowledge of vessels and all that pertains to them, has aided him greatly in deciding on the different parts of this bit of property that is to cost \$100,000. The boat's cabin accommodations will be more after the style of an elegant passenger boat than a yacht.

The steam yacht which the Herreshoff's launched at Bristol a few days ago for Millionaire Hearst is to make 25 miles an hour. She is 112 feet long, 12 feet 4 inches beam, and has a draught of 5 feet. She has been built with five water-tight compartments or bulkheads, so as to make her practicably unsinkable. She has a quadruple expansion engine of 800 horse power, fed by a tubular boiler of the Thorneycroft type, but built by the Herreshoffs. Her pilot house and companionway are of solid mahogany, and all her fastenings are copper and bronze.

Affairs in Admiralty.

LIBERAL SALVAGE AWARD.

Judge Bond of the United States circuit court, Maryland, gives out an important decision in a salvage case. The *Khio*, a large ocean going steamship, was lying in a slip by a wharf. On the opposite side of the slip, about 100 feet in width, was a large elevator. In front of the *Khio*, and between it and the main body of water was another steamship, the *North Erin* of the same class. Suddenly, as if by an explosion, the elevator was enveloped in flames. The heat was intense, and both steamships were in imminent danger. The tug boat *Calvin Whately*, coming to the rescue, made fast to the *North Erin* and towed her out of the slip to a place of safety. The *Khio* had put her lines on the *Erin*, thinking to follow her out, but they were thrown off by the captain of the *Erin* before they had made much headway. The stern lines of the *Khio* were still fast to the wharf to keep her from being carried by the wind, which was a strong one, across the slip to the burning elevator, and when her bow lines were thrown off her head was carried over the slip and her danger was very great. Just then the tug boat *John S. Gunby*, which had been helping the *Whately* take the *Erin* out, seeing the great danger of the *Khio*, took a line which her officers had carried to the wharf and towed her out of the slip to a place of safety. The court allowed in the case of the *Erin* \$1,700 salvage and in the case of the *Khio* \$2,000. It was held on appeal, as to the proper distribution of these funds, that the *Whately* was not entitled to any portion of the amount paid by the *Khio*, since the casting off her lines in taking out the *Erin* put her in much greater danger.

The question was recently presented in the United States district court in Brooklyn whether a steam vessel is required to change course for a pleasure craft. The yacht *Medusa* was injured in a collision with the tug *M. E. Staples*, which was towing an empty barge. The owners of the tug claimed that as a trading vessel, to whom loss of time means loss of money, she could not be required to change her course for a pleasure craft. The court held that the tug was obliged to change her course. Pleasure yachts, while subject to, are also entitled to act upon the rules of navigation. There was nothing in the situation of the vessels to create an exception to the ordinary rule of navigation by which it is made the duty of a steam vessel to avoid a vessel under sail.

Judge Jenkins of the United States district court, Milwaukee, decided in the *Roanoke* case, where a libel was filed against

Commercial Union Assurance Company, Limited, OF LONDON.

INLAND MARINE DEPARTMENT.

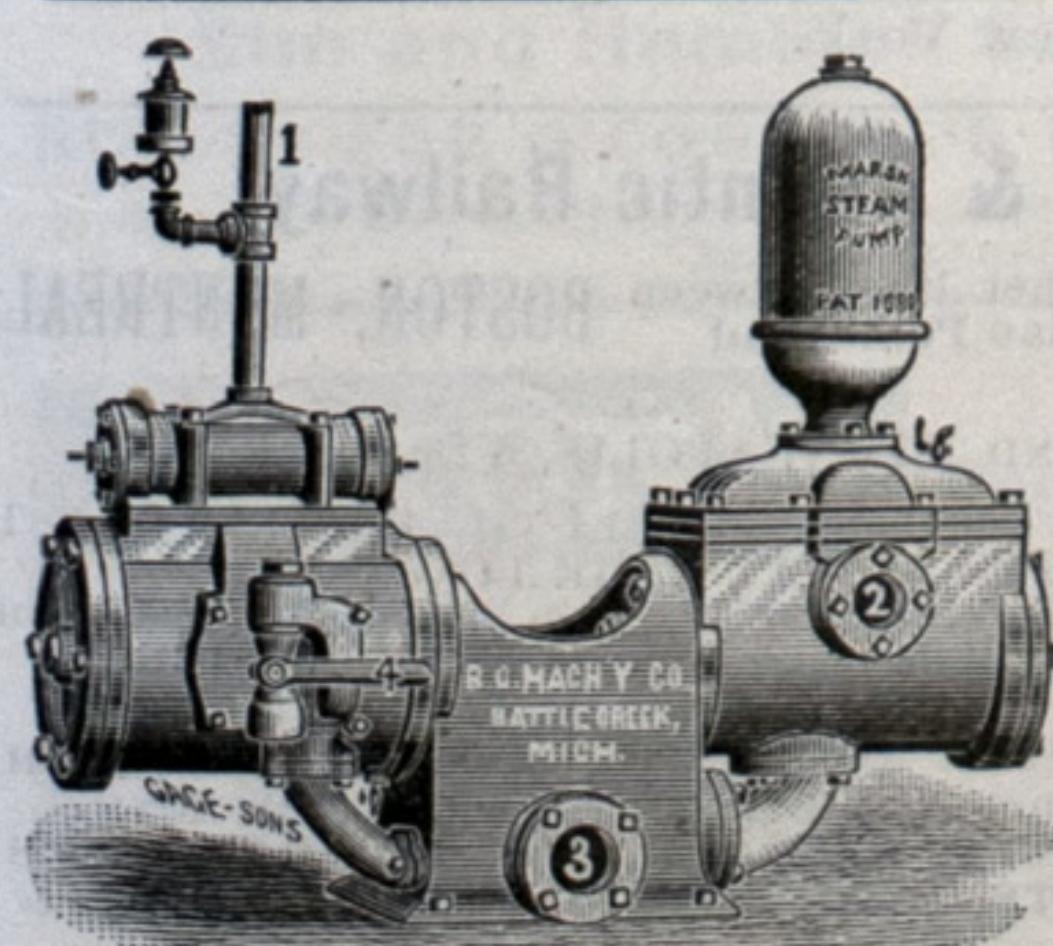
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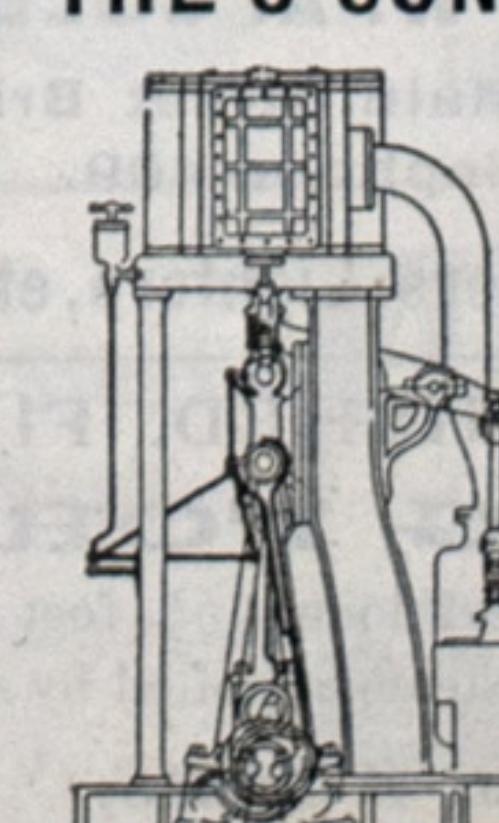
Stoppage of Lard Oil account.

Perfectly clean Engine

O'Connell & Cahill,

Manistee, Mich.

Dark lines indicate apparatus.



the steamer in a cause of general average, civil and maritime, that damage by water poured upon cargo to extinguish fire is the subject of general average and the statute (rev. st. sec. 4.282) exempting the shipowner from liability for damage by fire, happening without his neglect or design, does not release from liability to contribute towards general average.

A vessel under charter which ended at New York was sunk by collision before reaching her port of destination. Awaiting her at New York was a second charter. The commissioner in assessing damages against the colliding vessel, declined to allow as an item thereof the freight which the vessel would have earned on the second voyage. District Judge Benedict held that such freight was a proper item of the damages recoverable against the colliding vessel.

The case of Lyons and others vs. the propeller *Charles Hebard* decided in Detroit by Judge Hammond of Tennessee and reported at some length in the MARINE REVIEW of March 5 last, is printed in full in the Federal Reporter, issue of June 23.

Lake Chautauqua—The Queen of Summer Resorts.

At a lake of cool crystal water, located among the beautiful highlands of the Empire state, over one hundred and fifty thousand people seek each summer season the delightful rest always found in that wholesome atmosphere. Chautauqua—the famous resort—located between fourteen and fifteen hundred feet above the ocean, has unsurpassed facilities for boating, fishing and bathing. When these pastimes are combined with the advantages made possible through the educational and religious organizations, which make Chautauqua lake their summer headquarters, is it surprising that each season, thousands frequent its shores.

With hotel accommodations capable of delighting the tastes of the most fastidious and boarding houses where families may secure commodious rooms and excellent service at reasonable rates, should it be wondered at that people flock from the smoke, dust and heat of our cities to enjoy the pleasures and benefits obtainable on the shores of this "Lake of Springs."

Tourists selecting the Nickel Plate route to this queen of summer resorts, will find accommodations desirable in every appointment. Excellent connection is made for Chautauqua lake at Brocton Junction, N.Y., and from Mayville, N.Y. any point on the lake may be reached via boat or rail. Passengers holding tickets via Nickel Plate to Niagara Falls, may secure stop-over at Chautauqua free of charge.

Be sure your tickets read via the Nickel Plate.

July 30

The American Manufacturer, Pittsburgh, representing the furnace interests and iron manufacture of Pennsylvania and Ohio, has changed its form and appears more like a magazine. What it lost in area has been gained in thickness. The enhanced value of the space is the advertisers' gain and convenience in handling is for the benefit of subscribers.

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Convenient to fill.

Easy to regulate.

Flow of oil can be instantly shut off by simply moving the lever down—without disturbing the adjustment.

Also made Double and Triple Sight feed for Marine Engines.

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WHO GUARANTEE
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VESSEL AND MACHINERY EXCHANGE.

Space under this heading may be used gratis by our advertisers or subscribers to call attention to vessels or any craft, machinery, new or second hand, that they may have for sale. Those wanting machinery of any kind, or wishing to purchase vessels, are invited to take advantage of the same offer. Each item will be limited to three lines. Letters concerning same must mention number attached to item and be addressed MARINE REVIEW, 510 Perry-Payne Building, Cleveland, O.

58—Crosby Indicator, used only four times, for sale cheap.

63—DREDGE—At auction Wednesday, July 1, 11 a.m., at a point a short distance west of Willow street bridge, old river bed, Cleveland.

64—For Sale at a Bargain—Steamboat 78 feet over all, 18 feet beam; double engines; hull in first-class condition.

65—For Sale Cheap—Two 10 x 10 Marine Engines with two 4 feet 4 inch wheels; good shafting, heater, boiler, steam pump and connections; or will exchange for small yacht or real estate.

66—Steambarge that will carry 200 tons wanted for balance of season, or longer.

67—WANTED—To purchase a tug suitable for fishing purposes 60 to 80 feet long, engine 10 to 12 square; must have good deck room and be in good condition.

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D. BELL ENGINE WORKS,

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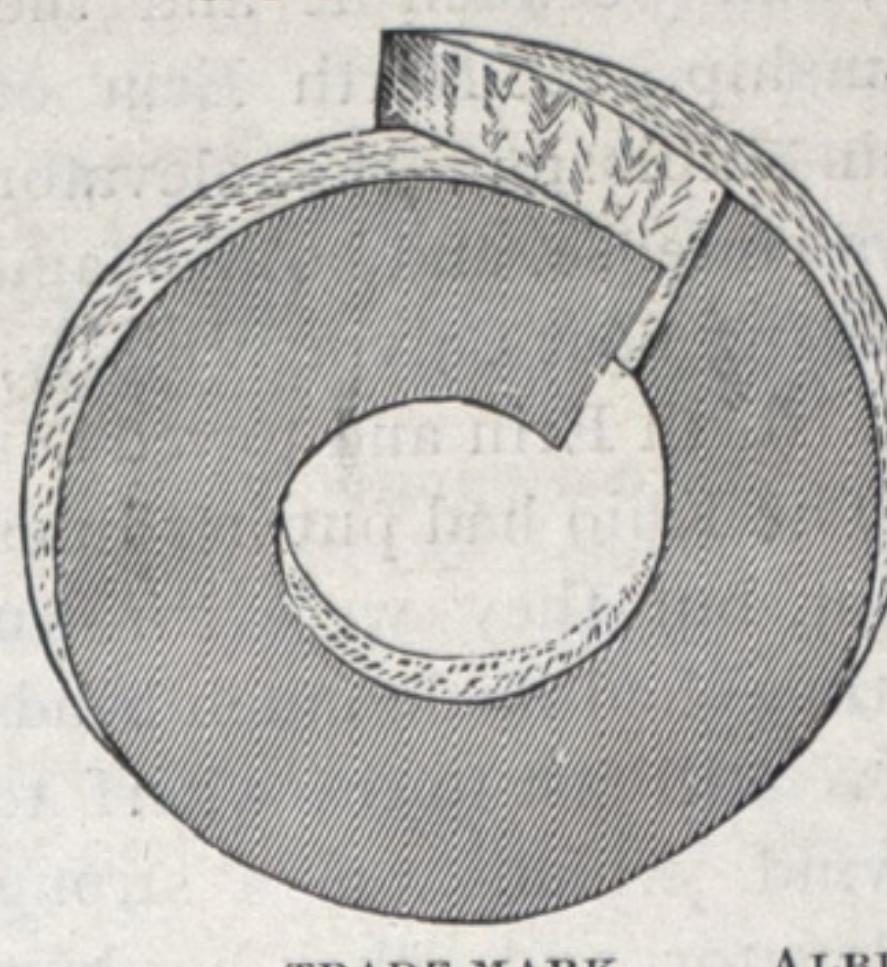
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Buffalo Passenger	10 40 AM	10 45 AM
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Fostoria Passenger.....	6 40 PM	7 00 AM
Local Freight	3 50 PM	6 00 AM
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All trains daily except Sunday.

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	Arrive.	Depart.
Youngstown Accommodation.....	*7 15 AM	16 00 AM
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Pittsburg Accommodation.	12 30 PM	*11 25 AM
New York & Pittsburgh Limited.....	*9 55 AM	*2 55 PM
Mantua Accommodation	*7 20 PM	*4 20 PM
Youngstown Express.....	19 10 PM	16 00 PM
New York & Pittsburgh Express.....	*6 50 PM	*11 00 PM
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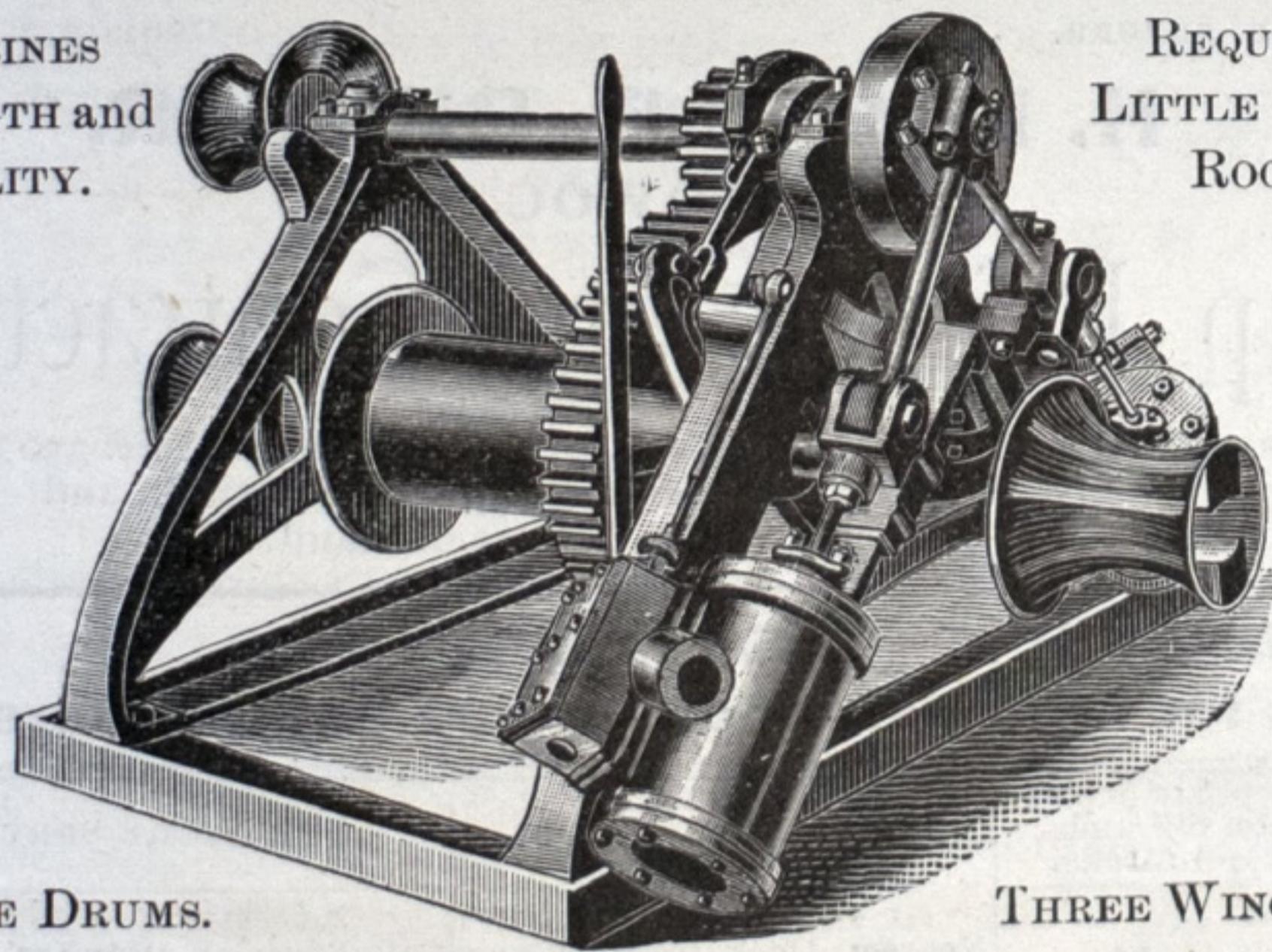
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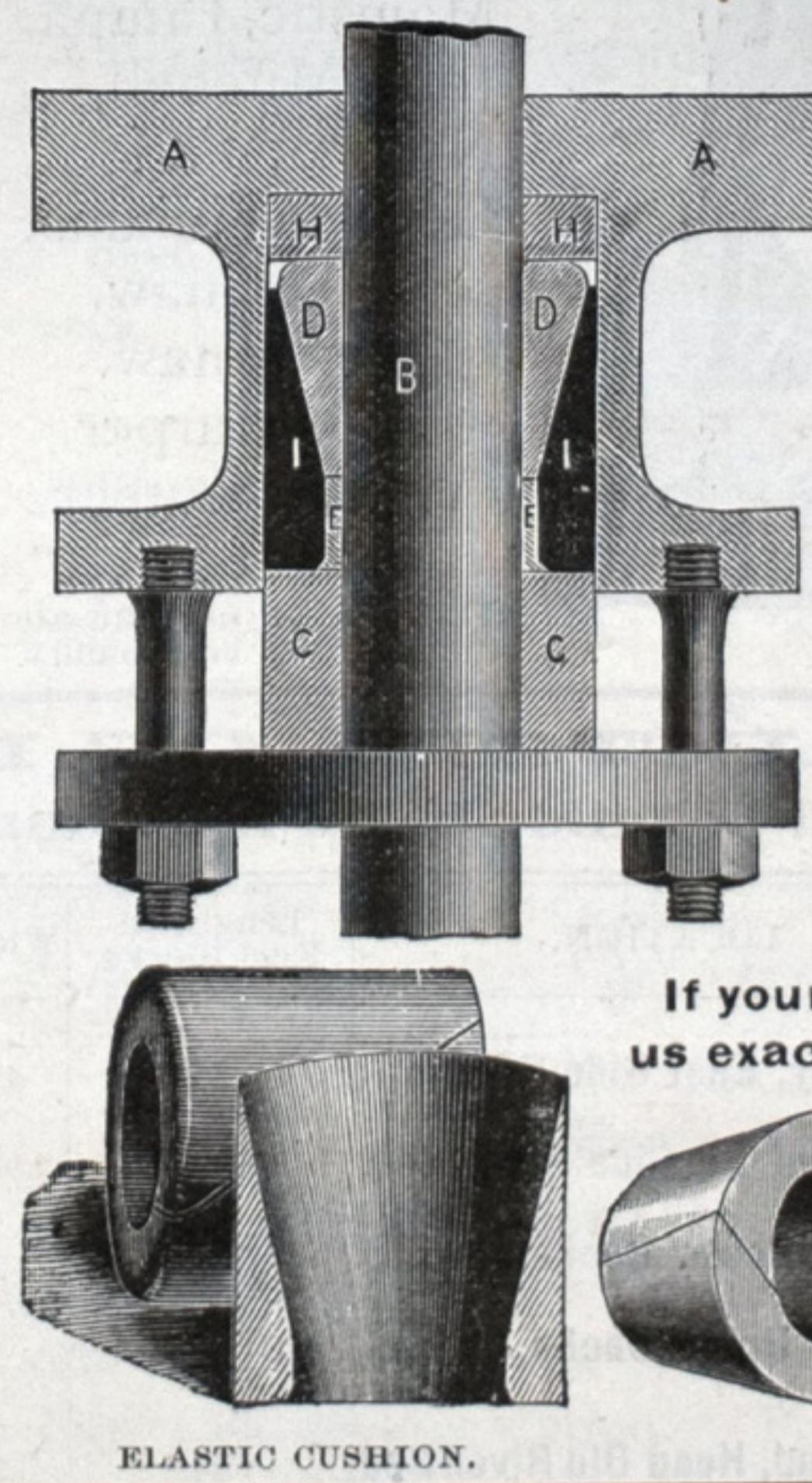
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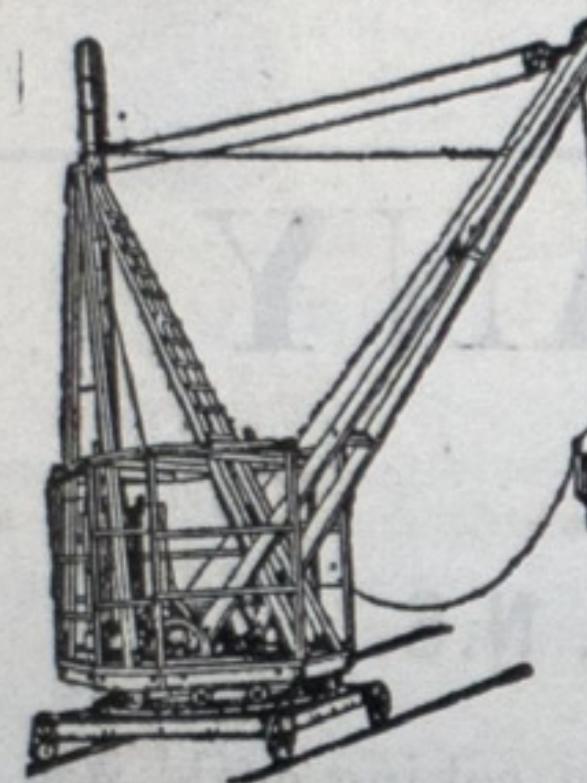
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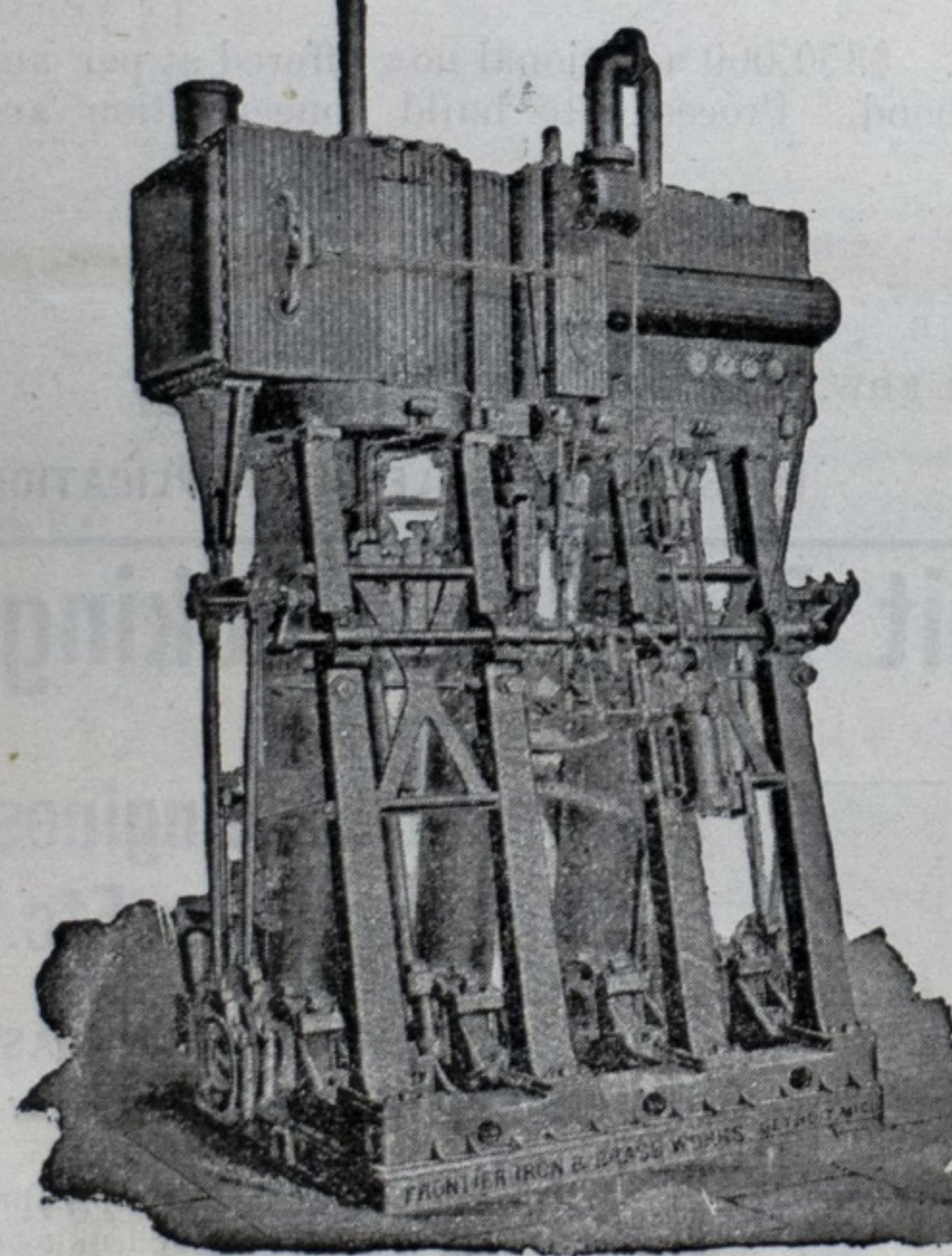
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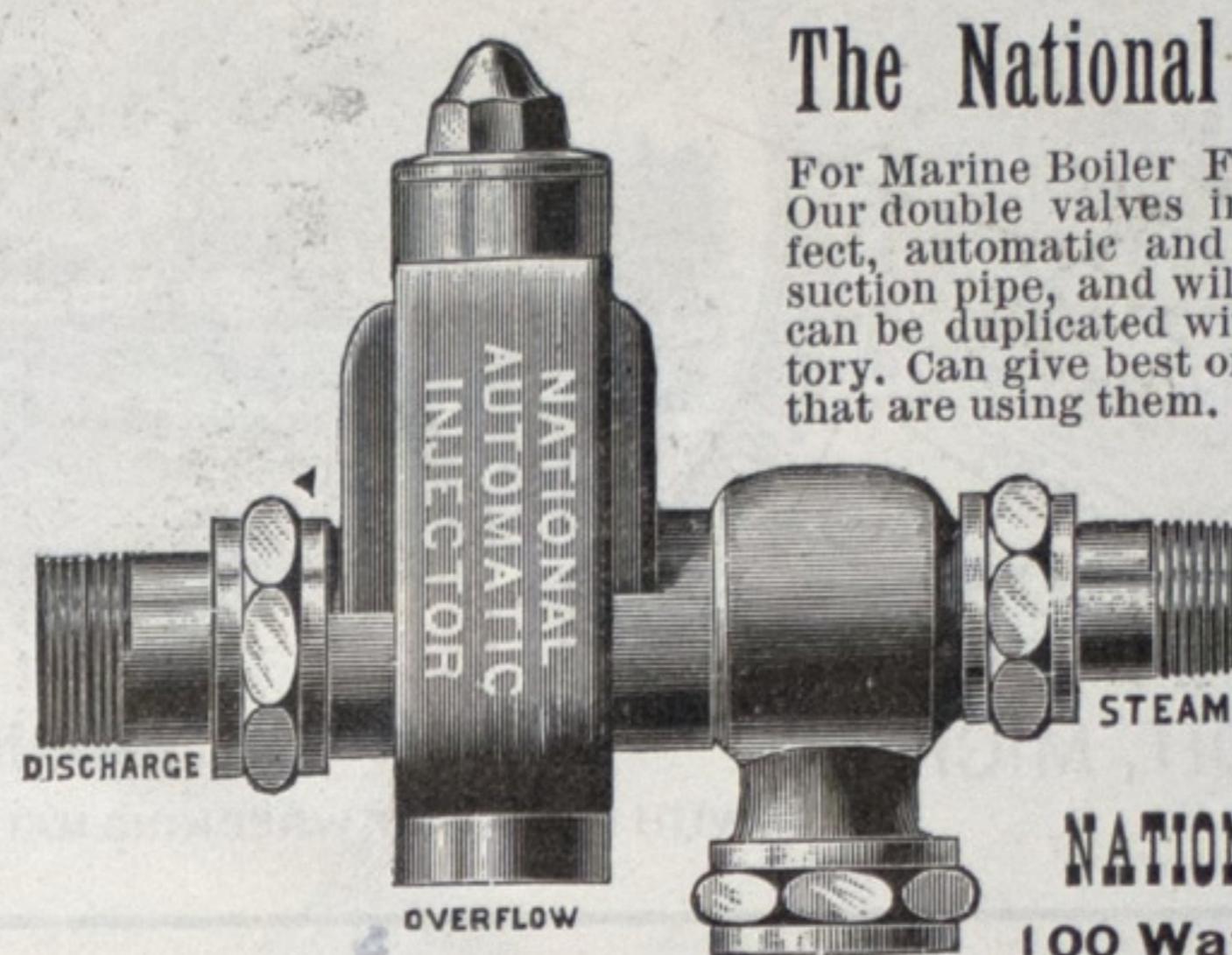
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